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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,371	12/12/2001	Kazuaki Nagamine	FUJH 19.250	2893

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EXAMINER	
AHMED, SALMAN	
ART UNIT	**PAPER NUMBER**
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/015,371	NAGAMINE ET AL.	
	Examiner	Art Unit	
	Salman Ahmed	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/3/2006(RCE)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-10 are pending.

Claims 1-10 are rejected.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 4 and 5 have the following newly added limitations:

"a control unit transmit switching information only via the network having higher speed transmission lines....plurality of networks"

The limitation is confusing. It is not clear if the "trouble" occurred in the lines with higher transmission speed or any lines, which are shared and have higher transmission speed? It is not clear whether the network that encountered the trouble is at the higher speed link which is unshared or shared. The only shared part of the links is the higher speed link. So there is confusion between what is happening where; i.e. the interaction between shared links, which are high-speed links and trouble occurring at some link, which could be higher speed, unshared links. So is there a difference between unshared or shared lines with higher transmission?

Claim 9 has similar issues.

As such, the above-cited limitations are indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 (as understood by the Examiner), 2, 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lauder et al. (US PAT PUB 2002/0135835), in view of Majd et al. (US PAT 6587974), hereinafter referred to as Majd.

In regards to claims 1, 2 and 3 Lauder teaches a node device (figure 1 element 100) for connecting a plurality of networks (figure 6, elements 600 and 602) at least one of plurality of networks (page 3 section 0038, 412 interface for Packet-Over-SONET) having higher speed transmission lines (page 3 section 0038, Packet-Over-SONET), node device comprising: a plurality of input units (figure 1, element 126 and element 122) for respectively inputting data from first transmission lines installed in each of plurality of networks; a plurality of output units (figure 1, element 126 and element 122) for respectively outputting data to second transmission lines installed in each of plurality of networks; and a first switching (figure 1, element 108) unit for switching the data input from input units to output units; a control unit (figure 4, Gigabit Ethernet controller 406) transmitting switching information only via at least one network (page 3 section 0038, 412 interface for Packet-Over-SONET) having higher speed transmission line (page 3 section 0038, Packet-Over-SONET) and at least one higher speed input unit (figure 1 and page 3 section 0036, where element 126 has a higher bandwidth than element 122. The dual Gigabit Ethernet controller 406 further includes a dual GbE Medium Access Control (MAC) unit for transmitting and receiving GbE packets on the two GbE streams 402, 404. The dual Gigabit Ethernet controller 406 further includes a Packet-Over-SONET Physical layer (POS-PHY) level 3 (PL3) Slave unit 412 for transmitting and receiving packets over the standard PL3 channel 414 (page 3 section 0036)); the input unit that inputs data from a transmission line shared by plurality of networks among first transmission lines having a higher transmission speed than other input units (figure 1, where element 126 has a higher bandwidth than element 122).

Lauder does not explicitly teach transmit switching information to the networks related to the fault.

Majd in the same field of endeavor teaches if an error is detected at step 24, for example a break occurs at X 18 (see FIG. 1), a transmitter of node 12 (downstream node) connected to a second cable, cable B (cable 15), sends a fault notification message on the second cable B (15) to a receiver of the upstream originating node 10 (column 2 lines 27-32).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lauder's system/method by incorporating the steps of transmitting switching information to the networks related to the fault as taught by Majd. The motivation is that notifying nodes promptly about the fault enables them to take actions related to APS or Automatic Protection Switching quickly; thus making the network reliable.

In regards to claim 8, Lauder teaches first and second transmission lines are formed by optical fibers, and said data is transmitted and received along first and second transmission lines after being or by wavelength division multiplexed by time slots (page 1 section 0008).

4. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lauder, and Majd as applied to claim 1 above, and further in view of Moy et al. (US PAT PUB 2003/0035411), hereinafter referred to as Moy.

In regards to claims 6 and 7 Lauder and Majd teach a multiplexing/Demultiplexing unit (figure 5, element 504) for multiplexing/ Demultiplexing data and sending this data to output units when data is switched and output to output units (figure 1, element 126 element 122) from input units (figure 1, element 122 element 126) that have a transmission speed lower than that of output units (figure 1, element 126 element 122).

In regards to claim 6, Lauder and Majd do not explicitly teach using the digital wrapper method or OHBT method.

In regards to claim 6, Moy teaches (page 8 section 0109) using digital wrapper protocol.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lauder and Majd's system/method by incorporating the digital wrapper protocol as taught by Moy. The motivation is that (as suggested by Moy, page 8, section 0109) various physical layer technology, for example, SONET, Gigabit Ethernet (GE), or a digital wrapper connection, can be used to encode data efficiently and reliably on the optical trail. Digital wrapper is one of the efficient networks being used in the optical world for optical communication successfully.

5. Claims 9 (as understood by the Examiner) and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Vito et al. (US PAT 6061335), hereinafter referred to as De Vito in view of Lauder, Majd and Moy.

In regards to claim 9, De Vito teaches a network system (figure 1) comprising: a first network (figure 1, stacked OC-48 ring) in which a plurality of first node devices (figure 1, Pop LSO and service nodes in stacked OC-48 rings) are connected by transmission lines; a second network (figure 1, stacked OC-3 ring) in which a plurality of second node devices (figure 1, LSO, CP in stacked OC-3 rings) are connected by transmission lines; and a third node device (figure 1, ring hubs 107, 109) which is connected to some of the transmission lines of first network and some of the transmission lines of second network, third node device transmitting and receiving the data transmitted and received by at least one of transmission lines connected to third node device at a higher speed than the data transmitted and received by the other transmission lines of first network and transmission lines of second network (figure 1, element backbone ring 105 having higher bandwidth then access ring 101, both going through ring hubs 107, 109).

De Vito does not explicitly teach third node unit comprising a control unit transmitting switching information only via the higher speed transmission line of the third node device.

Lauder, in the same field of endeavor teaches within a node a control unit (figure 4, Gigabit Ethernet controller 406) transmitting switching information only via the higher speed transmission line (page 3 section 0038, Packet-Over-SONET) of the third node device (figure 1 and page 3 section 0036, where element 126 has a higher bandwidth than element 122. The dual Gigabit Ethernet controller 406 further includes a dual GbE Medium Access Control (MAC) unit for transmitting and receiving GbE packets on the

two GbE streams 402, 404. The dual Gigabit Ethernet controller 406 further includes a Packet-Over-SONET Physical layer (POS-PHY) level 3 (PL3) Slave unit 412 for transmitting and receiving packets over the standard PL3 channel 414 (page 3 section 0036)).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify De Vito's system/method by incorporating the node unit comprising a control unit transmitting switching information only via the higher speed transmission line of the node device. The motivation is that in a multi-ring network environment with nodes having links with various bandwidths, it is cost effective and efficient to send data, by consolidating them and transmitting them through higher bandwidth or fatter pipe, then to use multiple lower bandwidth links.

De Vito and Lauder do not explicitly teach transmit switching information to the networks related to the fault.

Majd in the same field of endeavor teaches if an error is detected at step 24, for example a break occurs at X 18 (see FIG. 1), a transmitter of node 12 (downstream node) connected to a second cable, cable B (cable 15), sends a fault notification message on the second cable B (15) to a receiver of the upstream originating node 10 (column 2 lines 27-32).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify De Vito and Lauder's system/method by incorporating the steps of transmitting switching information to the networks related to the fault as taught by Majd. The motivation is that notifying nodes promptly about the fault enables them to

take actions related to APS or Automatic Protection Switching quickly; thus making the network reliable.

In regards to claim 10 De Vito teaches at least two of third node devices (figure 1, elements 107, 109) are disposed adjacent to each other, and the data that is transmitted and received by transmission lines (figure 1, backbone ring 105) between at least two of third nodes devices is transmitted and received at a higher speed (figure 1, OC-48) than the data that is transmitted and received by the other transmission lines (figure 1, access ring 101) of first network and transmission lines of second network.

Allowable Subject Matter

6. Claims 4 and 5 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and no new limitaiton or change of scope takes place.

Response to Arguments

7. Applicant's arguments see pages 8-9 of the Remarks section, filed 10/10/2006, with respect to the rejections of claims 1-10 have been fully considered and are not persuasive.

35 USC 112 second paragraph:

Applicant's argues (see page 8 paragraph 2) that independent claims I, 4, 5, and 9 have been amended to clarify certain aspect of the invention. While the amended language clarifies the issues of the transmission lines, the higher speed

transmission lines, the USC 112 second paragraph rejection still applies, because, Claims 1, 4 and 5 have the following newly added limitations:

"a control unit transmit switching information only via the network having higher speed transmission lines....plurality of networks"

The limitation is confusing. It is not clear if the "trouble" occurred in the lines with higher transmission speed or any lines, which are shared and have higher transmission speed? It is not clear whether the network that encountered the trouble is at the higher speed link which is unshared or shared. The only shared part of the links is the higher speed link. So there is confusion between what is happening where; i.e. the interaction between shared links, which are high-speed links and trouble occurring at some link, which could be higher speed, unshared links. So is there a difference between unshared or shared lines with higher transmission speed? Claim 9 has similar issues. As such, the above-cited limitations are indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

35 USC 103(a):

Applicant's argues (see page 8 paragraph 4) that the amended claims 1 and 9 are not taught by the cited references; specifically, the routing of switching information only via the higher speed transmission lines when trouble occurs is not taught by the references. However, Examiner respectfully disagrees with the assertion. As described in the rejections, Lauder teaches a control unit (figure 4, Gigabit Ethernet controller 406) transmitting switching information only via at least one network (page 3 section 0038, 412 interface for Packet-Over-SONET) having higher speed transmission line (page 3

section 0038, Packet-Over-SONET). Lauder does not explicitly teach transmit switching information to the networks related to the fault (trouble). Majd in the same field of endeavor teaches if an error is detected at step 24, for example a break occurs at X 18 (see FIG. 1), a transmitter of node 12 (downstream node) connected to a second cable, cable B (cable 15), sends a fault notification message on the second cable B (15) to a receiver of the upstream originating node 10 (column 2 lines 27-32). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lauder's system/method by incorporating the steps of transmitting switching information to the networks related to the fault as taught by Majd. The motivation is that notifying nodes promptly about the fault enables them to take actions related to APS or Automatic Protection Switching quickly; thus making the network reliable.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salman Ahmed whose telephone number is (571)272-8307. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit 2616

SA
12/8/2006

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